

REMARKS

The Office Action dated July 18, 2003, has been received and carefully considered. In this response, claims 35, 46, 51, 56, 61, 101, 112, 117, 122, and 127 have been amended. Entry of the amendments to claims 35, 46, 51, 56, 61, 101, 112, 117, 122, and 127 is respectfully requested. Reconsideration of the outstanding rejections in the present application is also respectfully requested based on the following remarks.

I. THE DOUBLE-PATENTING REJECTION OF CLAIMS 35-39 AND 46-64

On page 2 of the Office Action, claims 35-39 and 46-64 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 37-41 and 48-67 of Cappiello et al. (U.S. Patent No. 6,577,788) in view of Derickson et al. (U.S. Patent No. 5,798,479).

As indicated in the office action response filed May 2, 2003, a terminal disclaimer will be submitted upon an indication of allowance of the present application.

II. THE ANTICIPATION REJECTION OF CLAIMS 35, 46, 50, 51, AND 55

On pages 3-4 of the Office Action, claims 35, 46, 50, 51 and 55 were rejected under 35 U.S.C. § 102(b) as being anticipated by Mowry, Jr. et al. (U.S. Patent No. 5,403,040).

This rejection is hereby respectfully traversed with amendment.

Under 35 U.S.C. § 102, the Patent Office bears the burden of presenting at least a prima facie case of anticipation. In re Sun, 31 USPQ2d 1451, 1453 (Fed. Cir. 1993) (unpublished). Anticipation requires that a prior art reference disclose, either expressly or under the principles of inherency, each and every element of the claimed invention. Id. "In addition, the prior art reference must be enabling." Akzo N.V. v. U.S. International Trade Commission, 808 F.2d 1471, 1479, 1 USPQ2d 1241, 1245 (Fed. Cir. 1986), cert. denied, 482 U.S. 909 (1987). That is, the prior art reference must sufficiently describe the claimed invention so as to have placed the public in possession of it. In re Donohue, 766 F.2d 531, 533, 226 USPQ 619, 621 (Fed. Cir. 1985). "Such possession is effected if one of ordinary skill in the art could have combined the publication's description of the invention with his own knowledge to make the claimed invention." Id.

Regarding claim 35, the Examiner asserts that Mowry, Jr. et al. teaches, in column 5, lines 43-48, a diffraction grating comprising a reflective material having a blazed surface with a blaze angle between about 27 degrees and about 39 degrees, and an optically transmissive material disposed adjacent the reflective material and having an index of refraction (n),

wherein the blazed surface of the reflective material has approximately $(500 \pm 110) * n$ number of grooves per millimeter. However, Mowry, Jr. et al. does not claim, disclose, or even suggest a diffraction grating comprising a reflective material having a blazed surface with a blaze angle between about 27 degrees and about 39 degrees, and an optically transmissive material disposed adjacent the reflective material and having an index of refraction (n), wherein the blazed surface of the reflective material has approximately $(500 \pm 110) * n$ number of grooves per millimeter such that the diffraction grating has an efficiency of at least 80% over at least one of the C-band and L-band wavelength ranges, as presently claimed. Accordingly, it is respectfully submitted that Mowry, Jr. et al. does not anticipate the present invention, as presently claimed.

Regarding claim 46, the Examiner asserts that Mowry, Jr. et al. teaches, in column 5, lines 43-48, a diffraction grating comprising a reflective material having a blazed surface with a blaze angle between about 37 degrees and about 40 degrees, and an optically transmissive material disposed adjacent the reflective material having an index of refraction (n), wherein the blazed surface of the reflective material has approximately $(200 \pm 40) * n$ number of grooves per millimeter. However, Mowry, Jr. et al. does not claim, disclose, or even suggest a

diffraction grating comprising a reflective material having a blazed surface with a blaze angle between about 37 degrees and about 40 degrees, and an optically transmissive material disposed adjacent the reflective material having an index of refraction (n), wherein the blazed surface of the reflective material has approximately $(200 \pm 40) * n$ number of grooves per millimeter such that the diffraction grating has an efficiency of at least 60% over the C-band wavelength range, as presently claimed. Accordingly, it is respectfully submitted that Mowry, Jr. et al. does not anticipate the present invention, as presently claimed.

Regarding claim 50, the Examiner asserts that Mowry, Jr. et al. teaches, in Figures 1 and 2, a substantially planar substrate on which the reflective material is formed. However, claim 50 is dependent upon independent claim 46. Thus, since independent claim 46 should be allowable as discussed above, claim 50 should also be allowable at least by virtue of its dependency on independent claim 46.

Regarding claim 51, the Examiner asserts that Mowry, Jr. et al. teaches, in column 5, lines 43-48, a diffraction grating comprising a reflective material having a blazed surface with a blaze angle between about 41 degrees and about 44 degrees, and an optically transmissive material disposed adjacent the

reflective material having an index of refraction (n), wherein the blazed surface of the reflective material has approximately $(450 \pm 40) * n$ number of grooves per millimeter. However, Mowry, Jr. et al. does not claim, disclose, or even suggest a diffraction grating comprising a reflective material having a blazed surface with a blaze angle between about 41 degrees and about 44 degrees, and an optically transmissive material disposed adjacent the reflective material having an index of refraction (n), wherein the blazed surface of the reflective material has approximately $(450 \pm 40) * n$ number of grooves per millimeter such that the diffraction grating has an efficiency of at least 70% over the C-band wavelength range, as presently claimed. Accordingly, it is respectfully submitted that Mowry, Jr. et al. does not anticipate the present invention, as presently claimed.

Regarding claim 55, the Examiner asserts that Mowry, Jr. et al. teaches, in Figures 1 and 2, a substantially planar substrate on which the reflective material is formed. However, claim 55 is dependent upon independent claim 51. Thus, since independent claim 51 should be allowable as discussed above, claim 55 should also be allowable at least by virtue of its dependency on independent claim 51.

In view of the foregoing, it is respectfully requested that the aforementioned anticipation rejection of claims 35, 46, 50, 51 and 55 be withdrawn.

III. THE OBVIOUSNESS REJECTION OF CLAIMS 35, 37, 46, 51, 56-58, AND 60-63

On pages 4-6 of the Office Action, claims 35, 37, 46, 51, 56-58, and 60-63 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Laude (U.S. Patent No. 5,080,465). This rejection is hereby respectfully traversed with amendment.

As stated in MPEP § 2143, to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Also, as stated in MPEP § 2143.01, obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Further, as stated in MPEP § 2143.01, to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). That is, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970). Additionally, as stated in MPEP § 2141.02, a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). Finally, if an independent claim is nonobvious under 35 U.S.C. 103, then any claim

depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Regarding claim 35, the Examiner asserts that Laude teaches, in Figure 13, column 4, lines 65-88, and column 5, lines 4-5, a diffraction grating comprising a reflective material having a blazed surface with a blaze angle between about 27 degrees and about 39 degrees, and an optically transmissive material disposed adjacent the reflective material and having an index of refraction (n), wherein the blazed surface of the reflective material has approximately $(500 \pm 110) * n$ number of grooves per millimeter. However, Laude does not claim, disclose, or even suggest a diffraction grating comprising a reflective material having a blazed surface with a blaze angle between about 27 degrees and about 39 degrees, and an optically transmissive material disposed adjacent the reflective material and having an index of refraction (n), wherein the blazed surface of the reflective material has approximately $(500 \pm 110) * n$ number of grooves per millimeter such that the diffraction grating has an efficiency of at least 80% over at least one of the C-band and L-band wavelength ranges, as presently claimed. Accordingly, it is respectfully submitted that the present invention, as presently claimed, would not have been obvious in view of Laude.

Regarding claim 37, the Examiner asserts that Laude teaches, in column 5, lines 8-10, that the diffraction order associated with the lowest loss is the first order. However, claim 37 is dependent upon independent claim 35. Thus, since independent claim 35 should be allowable as discussed above, claim 37 should also be allowable at least by virtue of its dependency on independent claim 35.

Regarding claim 46, the Examiner asserts that Laude teaches, in Figure 13, a diffraction grating comprising a reflective material having a blazed surface, and an optically transmissive material disposed adjacent the reflective material and having an index of refraction (n). The Examiner goes on to assert that it would have been obvious to provide a blaze angle between about 37 degrees and about 40 degrees, wherein the blazed surface of the reflective material has approximately $(200 \pm 40) * n$ number of grooves per millimeter. However, Laude does not claim, disclose, or even suggest a diffraction grating comprising a reflective material having a blazed surface with a blaze angle between about 37 degrees and about 40 degrees, and an optically transmissive material disposed adjacent the reflective material having an index of refraction (n), wherein the blazed surface of the reflective material has approximately $(200 \pm 40) * n$ number of grooves per millimeter such that the

diffraction grating has an efficiency of at least 60% over the C-band wavelength range, as presently claimed. Accordingly, it is respectfully submitted that the present invention, as presently claimed, would not have been obvious in view of Laude.

Regarding claim 51, the Examiner asserts that Laude teaches, in Figure 13, a diffraction grating comprising a reflective material having a blazed surface, and an optically transmissive material disposed adjacent the reflective material and having an index of refraction (n). The Examiner goes on to assert that it would have been obvious to provide a blaze angle between about 41 degrees and about 44 degrees wherein the blazed surface of the reflective material has approximately $(450 \pm 40) * n$ number of grooves per millimeter. However, Laude does not claim, disclose, or even suggest a diffraction grating comprising a reflective material having a blazed surface with a blaze angle between about 41 degrees and about 44 degrees, and an optically transmissive material disposed adjacent the reflective material having an index of refraction (n), wherein the blazed surface of the reflective material has approximately $(450 \pm 40) * n$ number of grooves per millimeter such that the diffraction grating has an efficiency of at least 70% over the C-band wavelength range, as presently claimed. Accordingly, it is respectfully submitted that the present invention, as

presently claimed, would not have been obvious in view of Laude.

Regarding claim 56, the Examiner asserts that Laude teaches, in Figure 13, a diffraction grating comprising a reflective material having a blazed surface, and an optically transmissive material disposed adjacent the reflective material and having an index of refraction (n). The Examiner goes on to assert that it would have been obvious to provide a blaze angle between about 68 degrees and about 76 degrees wherein the blazed surface has approximately $(200 \pm 20) * n$ number of grooves per millimeter. However, Laude does not claim, disclose, or even suggest a diffraction grating comprising a reflective material having a blazed surface with a blaze angle between about 68 degrees and about 76 degrees, and an optically transmissive material disposed adjacent the reflective material having an index of refraction (n), wherein the blazed surface has approximately $(200 \pm 20) * n$ number of grooves per millimeter such that the diffraction grating has an efficiency of at least 60% over at least one of the C-band and L-band wavelength ranges, as presently claimed. Accordingly, it is respectfully submitted that the present invention, as presently claimed, would not have been obvious in view of Laude.

Regarding claim 57, the Examiner asserts that it would have been obvious in view of Laude to design the grating such that

the number of grooves per millimeter for the reflective material is between about 180 and about 220, and the index of refraction of the optically transmissive material is approximately 1.0. However, claim 57 is dependent upon independent claim 56. Thus, since independent claim 56 should be allowable as discussed above, claim 57 should also be allowable at least by virtue of its dependency on independent claim 56.

Regarding claim 58, the Examiner asserts that it would have been obvious in view of Laude to design the grating such that the diffraction order associated with the lowest loss is the fifth order. However, claim 58 is dependent upon independent claim 56. Thus, since independent claim 56 should be allowable as discussed above, claim 58 should also be allowable at least by virtue of its dependency on independent claim 56.

Regarding claim 60, the Examiner asserts that Laude teaches, in Figure 13, a substantially planar substrate on which the reflective material is formed. However, claim 60 is dependent upon independent claim 56. Thus, since independent claim 56 should be allowable as discussed above, claim 60 should also be allowable at least by virtue of its dependency on independent claim 56.

Regarding claim 61, the Examiner asserts that Laude teaches, in Figure 13, a diffraction grating comprising a

reflective material having a blazed surface, and an optically transmissive material disposed adjacent the reflective material and having an index of refraction (n). The Examiner goes on to assert that it would have been obvious to provide a blaze angle between about 50 degrees and about 56 degrees wherein the blazed surface of the reflective material has approximately $(250 \pm 30) * n$ number of grooves per millimeter. However, Laude does not claim, disclose, or even suggest a diffraction grating comprising a reflective material having a blazed surface with a blaze angle between about 50 degrees and about 56 degrees, and an optically transmissive material disposed adjacent the reflective material having an index of refraction (n), wherein the blazed surface of the reflective material has approximately $(250 \pm 30) * n$ number of grooves per millimeter such that the diffraction grating has an efficiency of at least 60% over the C-band wavelength range, as presently claimed. Accordingly, it is respectfully submitted that the present invention, as presently claimed, would not have been obvious in view of Laude.

Regarding claim 62, the Examiner asserts that it would have been obvious in view of Laude to design the grating such that the number of grooves per millimeter for the reflective material is between about 220 and about 280, and the index of refraction of the optically transmissive material is approximately 1.0.

However, claim 62 is dependent upon independent claim 61. Thus, since independent claim 61 should be allowable as discussed above, claim 62 should also be allowable at least by virtue of its dependency on independent claim 61.

Regarding claim 63, the Examiner asserts that it would have been obvious in view of Laude to design the grating such that the diffraction order associated with the lowest loss is the fourth order. However, claim 63 is dependent upon independent claim 61. Thus, since independent claim 61 should be allowable as discussed above, claim 63 should also be allowable at least by virtue of its dependency on independent claim 61.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 35, 37, 46, 51, 56-58, and 60-63 be withdrawn.

IV. THE OBVIOUSNESS REJECTION OF CLAIMS 59 AND 64

On page 6 of the Office Action, claims 35, 37, 46, 51, 56-58, and 60-63 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Laude (U.S. Patent No. 5,080,465) in view of Official Notice. This rejection is hereby respectfully traversed.

Regarding claims 59 and 64, the Examiner acknowledges that Laude does not teach that the reflective material is at least

one of the following: gold material, aluminum material and silver material. However, the Examiner goes on to assert that it would have been obvious in view of Official Notice to make the reflective material with a gold material, aluminum material, or silver material.

The Applicants traverse this rejection because there is no support in the record for the conclusion that the identified features are "old and well known." In accordance with MPEP § 2144.03, the Examiner must cite a reference in support of his position.

Also, claims 59 and 64 are dependent upon independent claims 56 and 61, respectively. Thus, since independent claims 56 and 61 should be allowable as discussed above, claims 59 and 64 should also be allowable at least by virtue of their dependency on independent claims 59 and 61.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 59 and 64 be withdrawn.

V. THE OBVIOUSNESS REJECTION OF CLAIMS 36, 38, 39, 47, 48, 50, 52, 53, AND 55

On pages 6-8 of the Office Action, claims 36, 38, 39, 47, 48, 50, 52, 53, and 55 were rejected under 35 U.S.C. § 103(a) as

being unpatentable over Laude (U.S. Patent No. 5,080,465) in view of Knop (U.S. Patent No. 4,426,130). This rejection is hereby respectfully traversed.

Claims 36, 38, and 39 are dependent upon independent claim 35. Thus, since independent claim 35 should be allowable as discussed above, claims 36, 38, and 39 should also be allowable at least by virtue of their dependency on independent claim 35.

Claims 47, 48, and 50 are dependent upon independent claim 46. Thus, since independent claim 46 should be allowable as discussed above, claims 47, 48, and 50 should also be allowable at least by virtue of their dependency on independent claim 46.

Claims 52, 53, and 55 are dependent upon independent claim 51. Thus, since independent claim 51 should be allowable as discussed above, claims 52, 53, and 55 should also be allowable at least by virtue of their dependency on independent claim 51.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 36, 38, 39, 47, 48, 50, 52, 53, and 55 be withdrawn.

VI. THE OBVIOUSNESS REJECTION OF CLAIMS 49, 54, 59, AND 64

On page 8 of the Office Action, claims 49, 54, 59, and 64 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Laude (U.S. Patent No. 5,080,465) in view of Official

Notice. This rejection is hereby respectfully traversed.

Regarding claims 49, 54, 59 and 64, the Examiner acknowledges that Laude does not teach that the reflective material is at least one of the following: gold material, aluminum material, and silver material. However, the Examiner goes on to assert that it would have been obvious in view of Official Notice to make the reflective material with a gold material, aluminum material, or silver material.

The Applicants traverse this rejection because there is no support in the record for the conclusion that the identified features are "old and well known." In accordance with MPEP § 2144.03, the Examiner must cite a reference in support of his position.

Also, claims 49, 54, 59, and 64 are dependent upon independent claims 46, 51, 56, and 61, respectively. Thus, since independent claims 46, 51, 56, and 61 should be allowable as discussed above, claims 49, 54, 59, and 64 should also be allowable at least by virtue of their dependency on independent claims 46, 51, 56, and 61.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 49, 54, 59, and 64 be withdrawn.

VII. THE OBVIOUSNESS REJECTION OF CLAIMS 101, 103, 112, 117,
122, 123, 125-128, 130, AND 131

On pages 8-9 of the Office Action, claims 101, 103, 112, 117, 122, 123, 125-128, 130, and 131 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hamel et al. (U.S. Patent No. 5,748,815) in view of Laude (U.S. Patent No. 5,080,465). This rejection is hereby respectfully traversed with amendment.

The Examiner asserts that Hamel et al. teaches, in Figure 5, a wavelength division device comprising a plurality of first coupling components wherein each first component being capable of receiving a distinct carrier for carrying a signal, a second coupling component disposed adjacent the first coupling components and capable of receiving a distinct carrier for carrying one or more signals, and a diffraction grating optically coupled to each carrier received by the first and second coupling components and a diffraction grating optically coupled to each carrier received by the first and second coupling components. The Examiner acknowledges that Hamel et al. does not teach the diffraction grating having the specific blaze angles and groove densities as presently claimed. However, the Examiner asserts that Laude teaches a diffraction grating having the specific blaze angles and groove densities as

presently claimed. Furthermore, the Examiner asserts that Laude teaches, in Figure 13, a substantially planar substrate on which the reflective material is formed. The Examiner goes on to assert that it thus would have been obvious to incorporate the grating of Laude into the device of Hamel et al. so as to arrive at the present invention as claimed.

Regarding claim 101, it is respectfully submitted that Hamel et al. and/or Laude, either alone or in combination, do not claim, disclose, or even suggest a diffraction grating comprising a blazed reflective material having a number of grooves per millimeter and a blazed angle between about 27 degrees and about 39 degrees, and an optically transmissive material disposed adjacent the reflective material having an index of refraction (n), wherein the number of grooves is approximately equal to $(500 \pm 110) * n$ such that the diffraction grating has an efficiency of at least 80% over at least one of the C-band and L-band wavelength ranges, as presently claimed. Accordingly, it is respectfully submitted that the present invention, as presently claimed, would not have been obvious in view of Hamel et al. and/or Laude, either alone or in combination.

Claim 103 is dependent upon independent claim 101. Thus, since independent claim 101 should be allowable as discussed

above, claim 103 should also be allowable at least by virtue of its dependency on independent claim 101.

Regarding claim 112, it is respectfully submitted that Hamel et al. and/or Laude, either alone or in combination, do not claim, disclose, or even suggest a diffraction grating comprising a blazed reflective material having a number of grooves per millimeter and a blaze angle between about thirty-seven and about forty degrees, and an optically transmissive material disposed adjacent the reflective material having an index of refraction (n), wherein the number of grooves is approximately equal to $(200 \pm 40) * n$ such that the diffraction grating has an efficiency of at least 60% over the C-band wavelength range, as presently claimed. Accordingly, it is respectfully submitted that the present invention, as presently claimed, would not have been obvious in view of Hamel et al. and/or Laude, either alone or in combination.

Regarding claim 117, it is respectfully submitted that Hamel et al. and/or Laude, either alone or in combination, do not claim, disclose, or even suggest a diffraction grating comprising a blazed reflective material having a number of grooves per millimeter and a blaze angle between about forty-one and about forty-four degrees, and an optically transmissive material disposed adjacent the reflective material having an

index of refraction (n), wherein the number of grooves is approximately equal to $(450 \pm 40) * n$ such that the diffraction grating has an efficiency of at least 70% over the C-band wavelength range, as presently claimed. Accordingly, it is respectfully submitted that the present invention, as presently claimed, would not have been obvious in view of Hamel et al. and/or Laude, either alone or in combination.

Regarding claim 122, it is respectfully submitted that Hamel et al. and/or Laude, either alone or in combination, do not claim, disclose, or even suggest a diffraction grating comprising a blazed reflective material having a number of grooves per millimeter and a blaze angle between about sixty-eight and about seventy-six degrees, and an optically transmissive material disposed adjacent the reflective material having an index of refraction (n), wherein the number of grooves is approximately equal to $(200 \pm 20) * n$ such that the diffraction grating has an efficiency of at least 60% over at least one of the C-band and L-band wavelength ranges, as presently claimed. Accordingly, it is respectfully submitted that the present invention, as presently claimed, would not have been obvious in view of Hamel et al. and/or Laude, either alone or in combination.

Claims 123, 125, and 126 are dependent upon independent

claim 122. Thus, since independent claim 122 should be allowable as discussed above, claims 123, 125, and 126 should also be allowable at least by virtue of their dependency on independent claim 122.

Regarding claim 127, it is respectfully submitted that Hamel et al. and/or Laude, either alone or in combination, do not claim, disclose, or even suggest a diffraction grating comprising a blazed reflective material having a blazed surface with a blaze angle between about fifty and about fifty-six degrees, and an optically transmissive material disposed substantially adjacent the reflective material having an index of refraction, the reflective material having a number of grooves per millimeter being within a range approximately defined by the equation $(250 \pm 30) * n$, wherein n is the index of refraction of the optically transmissive material such that the diffraction grating has an efficiency of at least 60% over the C-band wavelength range, as presently claimed. Accordingly, it is respectfully submitted that the present invention, as presently claimed, would not have been obvious in view of Hamel et al. and/or Laude, either alone or in combination.

Claims 128, 130, and 131 are dependent upon independent claim 127. Thus, since independent claim 127 should be allowable as discussed above, claims 128, 130, and 131 should

also be allowable at least by virtue of their dependency on independent claim 127.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 101, 103, 112, 117, 122, 123, 125-128, 130, and 131 be withdrawn.

VIII. THE OBVIOUSNESS REJECTION OF CLAIMS 114, 119, 124, AND 129

On page 9 of the Office Action, claims 114, 119, 124, and 129 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hamel et al. (U.S. Patent No. 5,748,815) in view of Laude (U.S. Patent No. 5,080,465) and further in view of Official Notice. This rejection is hereby respectfully traversed.

Regarding claims 114, 119, 124, and 129, the Examiner acknowledges that neither Hamel et al. nor Laude teach that the reflective material is at least one of the following: gold material, aluminum material, and silver material. However, the Examiner goes on to assert that it would have been obvious in view of Official Notice to make the reflective material with a gold material, aluminum material, or silver material.

The Applicants traverse this rejection because there is no support in the record for the conclusion that the identified features are "old and well known." In accordance with MPEP § 2144.03, the Examiner must cite a reference in support of his

position.

Also, claims 114, 119, 124, and 129 are dependent upon independent claims 112, 117, 122, and 127, respectively. Thus, since independent claims 112, 117, 122, and 127 should be allowable as discussed above, claims 114, 119, 124, and 129 should also be allowable at least by virtue of their dependency on independent claims 112, 117, 122, and 127.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 114, 119, 124, and 129 be withdrawn.

IX. THE OBVIOUSNESS REJECTION OF CLAIMS 102, 104, 105, 113, 115, 116, 118, 120, AND 121

On page 10 of the Office Action, claims 102, 104, 105, 113, 115, 116, 118, 120, and 121 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hamel et al. (U.S. Patent No. 5,748,815) in view of Laude (U.S. Patent No. 5,080,465) and further in view of Knop (U.S. Patent No. 4,426,130). This rejection is hereby respectfully traversed.

Claims 102, 104, and 105 are dependent upon independent claim 101. Thus, since independent claim 101 should be allowable as discussed above, claims 102, 104, and 105 should also be allowable at least by virtue of their dependency on

independent claim 101.

Claims 113, 115, and 116 are dependent upon independent claim 112. Thus, since independent claim 46 should be allowable as discussed above, claims 113, 115, and 116 should also be allowable at least by virtue of their dependency on independent claim 112.

Claims 118, 120, and 121 are dependent upon independent claim 117. Thus, since independent claim 117 should be allowable as discussed above, claims 118, 120, and 121 should also be allowable at least by virtue of their dependency on independent claim 117.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 102, 104, 105, 113, 115, 116, 118, 120, and 121 be withdrawn.

X. CONCLUSION

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance, and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number, in order to expedite resolution of any issues and to expedite passage of the

present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-0206, and please credit any excess fees to the same deposit account.

Respectfully submitted,

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